

Agenda

Industry Partnerships for Environmental Science and Technology Conference

Industry and University Programs: Opening EM Science and Technology to the Entire Community of Science

October 30 - November 1, 2001

Tuesday, October 30, 2001

7:30 a.m. *Registration/Continental Breakfast*

8:30 a.m. *Welcome*
Robert C. Bedick, Product Manager, Industry and University Programs
John L. Murphy, Division Director, Environmental Management and Defense Program, U.S. DOE National Energy Technology Laboratory

Plenary Session I

Session Chair: John L. Murphy, U.S. DOE NETL

8:45 a.m. *Future Directions of OST*
Gerald G. Boyd, Deputy Assistant Secretary
U.S. DOE Environmental Management, Office of Science and Technology

9:10 a.m. *EM Technology Development and Deployment – NETL Perspective*
Rita A. Bajura, Director
U.S. DOE National Energy Technology Laboratory

9:35 a.m. *Industrial Partnerships in Environmental Technology – The DoD Perspective*
Bradley P. Smith, Executive Director
Strategic Environmental Research & Development Program

10:00 a.m. *Health and Safety Assessments of Environmental Technology*
Bruce Lippy, Industrial Hygienist
IUOE National HazMat Program

10:25 a.m. *Break*

Plenary Session II

Session Chair: Robert C. Bedick, U.S. DOE NETL

- 10:50 a.m. *Perspectives on Commercial and DOE Cleanup Programs*
Rich Tomlinson, Program Director
Interstate Technology and Regulatory Cooperation
- 11:15 a.m. *A Small Business Perspective on Technology Deployment*
John D. Wagoner, President
Informatics Corporation
- 11:40 a.m. *Long-Term Stewardship Methodology Overview*
Charles W. Powers, Director
Institute of Responsible Management
- 12:05 p.m. *Basic and Applied Science Activities in Environmental Management*
Mark A. Gilbertson, Director
U.S. DOE Environmental Management, Office of Basic and Applied Research
- 12:30 p.m. *Lunch*

Technical Session 1. Transuranic and Mixed Waste

Session Chair: Vijendra P. Kothari, U.S. DOE NETL

- 1:30 p.m. 1.1 *Initial Development of Continuous Emissions Monitor of Dioxin*
Michael J. Coggiola
SRI International Corporation
- 1:55 p.m. 1.2 *Pulsed Gamma Neutron Activation Analysis (PGNAA) System for the Assay of RCRA Metals in Mixed Waste*
Abdul R. Dulloo
Westinghouse Electric Company, LLC
- 2:20 p.m. 1.3 *Remote Intervention Tower Elimination System*
William S. Cooper
Oceaneering International, Inc.
- 2:45 p.m. 1.4 *Surface Acoustic Wave Mercury Vapor Sensor*
George P. Miller
Sensor Research and Development Corporation

3:10 p.m.		<i>Break</i>
3:25 p.m.	1.5	<i>Destruction Technology Demonstration for Organics in Transuranic Waste</i> Michael H. Spritzer General Atomics
3:50 p.m.	1.6	<i>A Demonstration of Silver II for the Decontamination and Destruction of Organics in Transuranic Wastes</i> Laurie Judd AEA Technology Engineering Services, Inc.
4:15 p.m.	1.7	<i>Technology Development for Transuranic Mixed Waste Applications</i> Daniel M. Battleson MSE Technology Applications, Inc.
4:40 p.m.	1.8	<i>Results of Tests Gamma-Locating Device (GLD) of Objects of Nuclear Industry</i> Nikolai Sidorkin NIKIMT, Russia
5:00 p.m.		Poster Session
	P.1	<i>Overview of Development and Demonstration of Environmental Technologies at Florida International University's Hemispheric Center for Environmental Technology</i> Robert W. Rose Florida International University
	P.2	<i>Environmental Technologies Acceptance (ETA) Program: NETL-EERC Cooperative Agreement</i> Erin M. O'Leary University of North Dakota, Energy & Environmental Research Center
	P.3	<i>Integration from Molecules to Ecosystems: An Environmental and Social Science Model for Long-Term Stewardship</i> Douglas J. Meffert Tulane University Sally O'Connor Xavier University
	P.4	<i>Overview of International Programs for Identification and Evaluation of Technologies for DOE-EM</i> J. Michael Kuperberg

The Institute for Central and Eastern European Cooperative Environmental
Research, Florida State University

- P.5 *EarthSaw In-Situ Containment of Pits and Trenches*
Ernest E. Carter, Jr.
Carter Technologies Company
- P.6 *In-Situ, Long-Term Monitoring System for Radioactive Contaminants*
James S. Durham
Colorado State University
- P.7 *Downhole Monitoring System for Tritium in Groundwater and Vadose Zones*
William Lowry
Science and Engineering Associates, Inc.
- P.8 *In-Situ Chelation and Removal of Subsurface Metals*
James D. Englehardt
University of Miami
- P.9 *Long-Term Monitoring Sensor Network*
James D. Shinn, III
Applied Research Associates, Inc.
- P.10 *Enhanced Access Penetration System*
James D. Shinn, III
Applied Research Associates, Inc.
- P.11 *In-Situ Chemical Stabilization of Metals and Radionuclides Through Enhanced Anaerobic Reductive Precipitation*
David S. Liles
ARCADIS Geraghty & Miller, Inc.
- P.12 *Microsensors for Ultrasensitive Detection of Hexavalent Chromium in Groundwater*
Thomas G. Thundat
Lal A. Pinnaduwege
University of Tennessee
- P.13 *The Use of Apatite for Chemical Stabilization of Subsurface Contaminants: Phosphate-Induced Metals Stabilization (PIMS) for Remediation of Radionuclides and Heavy Metal Contaminants at DOE Sites*
William D. Bostick
Materials and Chemistry Laboratory, Inc.

- P.14 *In-Situ Stabilization of Subsurface Contaminants Using Microbial Polymers*
Teh Fu Yen
University of Southern California
- P.15 *Decontamination of TRU Heterogeneous Waste by the Sonatol Process*
Robert Kaiser
Entropic Systems, Inc.
- P.16 *Electro-Hydrostatic Transmission and Control Technology for Modular D&D Manipulators*
Derek D. Black
Arm Automation, Inc.
- P.17 *GE/Nomadics In-Well Monitoring System*
Ronald E. Shaffer
General Electric Corporate R&D
- P.18 *Alternative Field Methods to Treat Mercury in Soil*
Ernest F. Stine, Jr.
IT Corporation
- P.19 *Demonstration of Electro-Chemical Remediation Technology*
Diedre D. Falter
The Providence Group
- P.20 *In-Situ Stabilization Utilizing Reactive Fixation Chemistry*
Peter W. Remsen
Atlanta Technology Group
- P.21 *Nuclear Isotopic Dilution of Highly Enriched Uranium by Dry Blending via the RM-2 Mill Technology*
Raj K. Rajamani
University of Utah

6:30 p.m. *Social/Dinner at the Historic Clarion Hotel Morgan*
(Dinner will begin at 7:30 p.m.)

Wednesday, October 31, 2001

7:30 a.m. *Registration/Continental Breakfast*

8:00 a.m. *Welcome Back*

8:05 a.m. **Panel Discussion. Future Opportunities in EM Science and Technology — Applied R&D Needs, Technology Gaps**

Moderator: Robert C. Bedick, U.S. DOE NETL

Transuranic and Mixed Waste Focus Area Perspective

William A. Owca

U.S. DOE Idaho Operations Office

Future Opportunities in EM Science & Technology: Applied R&D Needs, Technology Gaps

James A. Wright, Jr.

U.S. DOE Savannah River Operations Office

Tank Focus Area Perspective

Tom W. Ferns

U.S. DOE Richland Operations Office

Deactivation and Decommissioning Focus Area Perspective

Robert C. Bedick

U.S. DOE National Energy Technology Laboratory

Nuclear Materials Focus Area Perspective

Stanley Wolf

U.S. DOE Environmental Management, Office of Science and Technology

9:30 a.m. *Break*

Technical Session 2. Subsurface Contamination

Session Chair: Karen L. Cohen, U.S. DOE NETL

10:00 a.m. 2.1 *Non-Invasive Determination and Monitoring of Free-Phase Dense Nonaqueous Phase Liquids (DNAPLS) by Seismic Reflection Techniques*

Michael G. Waddell

University of South Carolina

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| 10:25 a.m. | 2.2 | <i>Specialized Separation Utilizing 3M Membrane Technology</i>
Keith Hoffmann and David Seely
3M Corporation |
| 10:50 a.m. | 2.3 | <i>Demonstration of Subsurface Containment System for Installation of Barriers</i>
Gregory S. Barber
RAHCO International Incorporated |
| 11:15 a.m. | 2.4 | <i>Evaluation of Remediation Methods for Plutonium Contaminated Soil</i>
Steve L. Hoeffner
Clemson University |
| 11:40 a.m. | 2.5 | <i>Surface-Altered Zeolites as Permeable Barriers for In Situ Treatment of Contaminated Groundwater</i>
Robert S. Bowman
New Mexico Institute of Mining and Technology |
| 12:05 p.m. | 2.6 | <i>Overview of MSE Technology Development for Subsurface Contaminant Applications</i>
Andrea T. Hart
MSE Technology Applications, Inc. |
| 12:30 p.m. | | <i>Lunch</i> |

Technical Session 3. Small Business Innovative Research Program

Session Chair: Richard P. Bush, U.S. DOE NETL

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| 1:30 p.m. | 3.1 | <i>DOE Small Business Innovative Research Program Overview</i>
Steve Lien
U.S. DOE Environmental Management, Office of Science and Technology |
| 1:50 p.m. | 3.2 | <i>Modular Robotics for Delivering On-Site Contamination Sensors and Mapping System to Difficult-to-Access Locations</i>
Derek D. Black
Arm Automation, Inc. |
| 2:10 p.m. | 3.3 | <i>PipeTaz: Automated Pipe Asbestos Insulation Removal System</i>
Hagen Schempf
Carnegie Mellon University |
| 2:30 p.m. | 3.4 | <i>Portable Multi-Contaminant Detection Instrumentation for D&D</i> |

Patrick D. French
ADA Technologies, Inc.

2:50 p.m. 3.5 *Intelligent Unmanned Monitoring of Remediated Sites*
Toni Quintana
Intelligent Optical Systems, Inc.

3:10 p.m. 3.6 *Compact Polycapillary-Based Microbeam X-Ray Fluorescence
Analysis System for Remote Monitoring of Metal Contamination*
Ning Gao
X-Ray Optical Systems, Inc.

3:30 p.m. *Break*

Technical Session 4. University Research

Session Chair: Ron K. Staubly, U.S. DOE NETL

3:45 p.m. 4.1 *Overview of Development and Demonstration of Environmental Technologies
at Florida International University's Hemispheric Center for Environmental
Technology*
Robert W. Rose
Florida International University

4:05 p.m. 4.2 *Environmental Management Cooperative Agreements: The Partnership
Between NETL and the Energy & Environmental Research Center*
Edward N. Steadman
University of North Dakota, Energy & Environmental Research Center

4:25 p.m. 4.3 *Overview of International Program for Identification and Evaluation of
Technologies for DOE-EM*
J. Michael Kuperberg
Florida State University

4:50 p.m. 4.4 *Diagnostic Instrumentation and Analysis Laboratory Support to DOE's
Environmental Management Program*
M. John Plodinec
Mississippi State University — DIAL

5:10 p.m. 4.5 *Is It Safe? Overview of an Integrated Research Program in Support of the
Long-Term Stewardship of the DOE Complex*
Douglas J. Meffert
Tulane University

Sally O'Connor

Xavier University

5:30 p.m.

Adjourn

Thursday, November 1, 2001

7:30 a.m. *Registration/Continental Breakfast*

8:00 a.m. *Welcome Back*

Technical Session 5. Tank Waste

Session Chair: Jagdish L. Malhotra, U.S. DOE NETL

8:05 a.m. 5.1 *AVS: Experimental Tests of a New Process to Inductively Vitrify HLW Inside the Final Disposal Containers at Very High Waste Loadings*
James R. Powell
Radioactive Isolation Consortium, LLC

8:30 a.m. 5.2 *In Situ Cleanable HEPA Filter for Clean-Up of Vent Gas from HLW Waste Tanks*
Bruce Bishop
CeraMem Corporation

8:55 a.m. 5.3 *A Washable Porous Metal HEPA Filter*
Kenneth L. Rubow
Mott Corporation

9:20 a.m. 5.4 *Electronics Recycling*
Rakesh Gupta
West Virginia University

9:45 a.m. Break

Technical Session 6. Deactivation and Decommissioning

Session Chair: Clifford P. Carpenter, U.S. DOE NETL

10:00 a.m. 6.1 *Human Machine Cooperative Telerobotics*
Reid Kress
University of Tennessee

10:25 a.m. 6.2 *Technologies Deployment for D&D Applications*
Mark D. Morgan
AEA Technology Engineering Services, Inc.

10:50 a.m. 6.3 *Technology for Real-Time Measurement of Surface and Airborne Beryllium*

William Lowry
Science and Engineering Associates, Inc.

11:15 a.m. *Closing Remarks*

11:30 a.m. *Adjourn*

12:30 p.m. *Optional NETL Site Tour*